

# CRASH COURSE

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10NT56

## Fifth Semester B.E. Degree Examination, May 2017 Materials and Surface Coatings

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.**

### PART – A

- 1 a. Describe synthesis, properties and applications of low density polyethylene. (10 Marks)  
b. Explain about different types of copolymers. (05 Marks)  
c. Write a short note on cross-linked polyethylene. (05 Marks)
- 2 a. Write a short note on UHMW–HDPE, and chlorinated polyethylene. (10 Marks)  
b. Explain about the synthesis and properties of i) polyvinyl chloride, ii) polyvinyl alcohol. (10 Marks)
- 3 a. Discuss about properties and applications of PMMA, and polyacrylonitrile. (10 Marks)  
b. Write short notes on poly carbonates, and thermoplastic polyurethane. (10 Marks)
- 4 a. Explain in detail about bacterial polyhydroxy alcanoates and polylactic acid. (10 Marks)  
b. Briefly discuss synthesis of PTFE, and polychloro fluoroethylene. Mention their properties and applications. (10 Marks)

### PART – B

- 5 a. Describe briefly about preparation, camma properties and applications of thermoplastic polysulphone. (10 Marks)  
b. Explain briefly about cotton wool and poly collagen. (10 Marks)
- 6 a. Discuss about the functions of adhesives. Mention the advantages and limitations of adhesive bonding. (10 Marks)  
b. Define molecular scale adhesion theory. Explain about adsorption theory, and weak boundary layer theory. (10 Marks)
- 7 a. Explain in detail about cyanoacrylate adhesives and mention their advantages as well as applications. (10 Marks)  
b. Write a detailed note on water based adhesives. (10 Marks)
- 8 a. Mention and explain the components of paint. (04 Marks)  
b. What is a can coating? Mention different types of can coating and the requirements for good can coating. (08 Marks)  
c. Mention different pigment dispersion processes. Explain any two. (08 Marks)

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